IOWA STATE UNIVERSITY
Department of Agricultural and Biosystems Engineering

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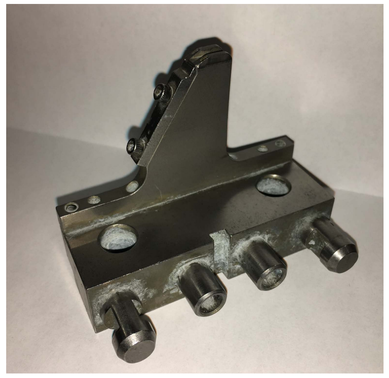
Silicone Applicator Cleaning Improvement

Client: Cardinal Glass, Greenfield, Iowa

Problem Statement

- Silicone is curing inside the applicator tips due to process not being standardized.
- Due to silicone curing inside the tips, the employees are having to repeat the cleaning process resulting in added labor expenses.



Dirty silicone applicator tip

Scope

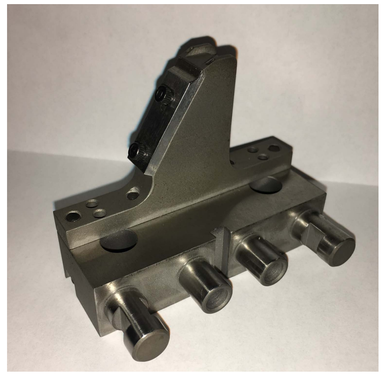
- Implement a new cleaning process to all workstations to reduce overall tip cleaning cycle time by standardizing the cleaning process and organizing workstations.

Objectives

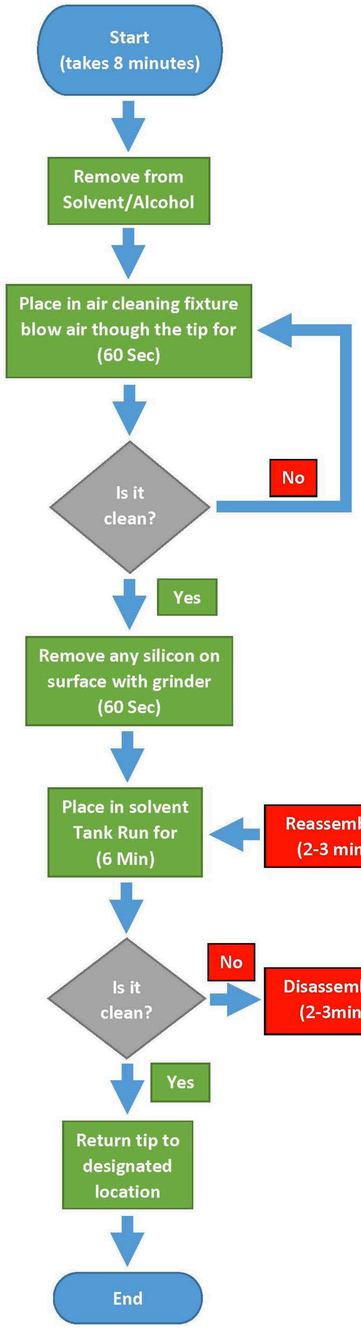
- Standardize cleaning procedure throughout facility
- Reduce applicator tip cleaning process by 30 seconds
- 5S compliant workstation

Constraints

- Criteria to be met: 3% internal rate of return in 12 months
- Cannot change the silicon used in the process.
- Cannot use abrasives on the applicator tip.
- The process must be universal to all applicator tip sizes.



Clean silicone applicator tip



Current Workstation Layout

Methods

- Research alternative solvents
- Calculate current costs (tooling and labor)
- Calculate new costs (tooling and labor)

Major Outcomes

- Update the SOP to improve tip cleaning time by 5%
- Replace solvent to decrease tank cycle time by 5%
- Make workstation 5S compliant to improve organization and efficiency

Benefit to Client

- Estimated $8,600 savings per station per year in rework time
- Standardize the cleaning procedure for the tip cleaning process.

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